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Claims

1. A conjugate comprising a magnetic polymer particle bound to a carboxymethylated aspartate chelating liquid.

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- 2. A conjugate comprising a magnetic polymer particle bound to a carboxymethylated aspartate ligand chelating a metal atom or ion.
- 10 3. A conjugate as claimed in claim 2 wherein said metal is a transition metal or a metal of group 13.
  - 4. A conjugate as claimed in claim 3 wherein said metal is Ni, Fe, Ga, Mn, Co, Cu and Zn.

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- 5. A conjugate as claimed in claim 4 wherein said metal is Fe, Ga, Mn and Co.
- 6. A conjugate as claimed in claim 2 to 5 wherein said 20 metal is in the 2+ or 3+ oxidation state.
  - 7. A conjugate as claimed in claim 6 wherein said metal is  $Co^{2+}$ ,  $Fe^{3+}$ ,  $Ga^{3+}$  and  $Cu^{2+}$ .
- 25 8. A conjugate as claimed in claim 7 wherein said metal is Co<sup>2+</sup>.
  - 9. A conjugate as claimed in any one of claims 1 to 8 wherein there are at least three atoms between the nitrogen atom of the carboxymethylated aspartate ligand and the particle surface.
  - 10. A conjugate as claimed in claim 9 being of formula

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(MPP=magnetic polymer particle)

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wherein the wavy line represents a 3 to 20 atom linker selected from NH-alkylene, NH-CO-alkylene, O-alkylene, OCO-alkylene, S-alkylene or SCO-alkylene.

- 11. A conjugate as claimed in claim 10 wherein the wavy line represents  $NH-C_5H_{12}-$  or  $NH-C_6H_{13}-$ .
- 10 12. A conjugate as claimed in any one of claims 1 to 11 wherein said polymer comprises a cross-linked styrene divinyl benzene polymer.
- 13. A conjugate as claimed in any one of claims 1 to 12 wherein the magnetic polymer particle has a diameter of 0.5 to 8  $\mu m$ .
- 14. A conjugate as claimed in claim 12 wherein said magnetic polymer particle has a diameter of 0.8 to 1.2  $\,$  20  $\,$   $\mu m$  .
  - 15. A conjugate as claimed in any one of claims 1 to 14 being uncharged.
- 25 16. A conjugate as claimed in any one of claims 2 to 15 additionally chelated to a histidine tagged recombinant protein/peptide, His, Cys, Met, Gln, Asn, Lys and/or Tyr residue containing native protein/peptide or phosphorylated protein/peptide.

17. A conjugate as claimed in any one of claims 2 to 16 additionally chelated to a histidine tagged recombinant protein/peptide.

18. A conjugate as claimed in claim 16 characterised in that where said conjugate binds a phosphorylated protein/peptide, said metal is Fe or Ga.

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19. A process for the preparation of a conjugate comprising a magnetic polymer particle bound to a Cm-Asp ligand comprising reacting a Cm-Asp ligand of formula (II)

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(wherein each R independently represents hydrogen or a protecting group and X represents a 2 to 20 atom group) with a magnetic polymer particle, and optionally coordinating the resulting conjugate to a metal atom or ion.

20. A compound of formula (II)

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(wherein each R independently represents hydrogen or a protecting group and X represents a 2 to 20 atom group) or an analogue therefore in which the R groups are absent and a metal chelated.

21 A compound as claimed in claim 2

21. A compound as claimed in claim 20 wherein X is a C5 or C6-alkylene group.

22. A compound of formula (III) or an analogue thereof in which a metal is chelated

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23. A process for the preparation of a compound of formula

10 (wherein each R independently represents hydrogen or a protecting group and X represents an  $C_{2-20}$  alkylene linker);

comprising reacting a compound of formula  $Hal-X_1-CN$  (wherein Hal is a halide and  $X_1$  represents an  $C_{1-19}$  alkylene linker) with a compound of formula

(wherein Pr is a protecting group)

20 reacting the resulting product with a compound of formula Hal-CH,COOPr to form a compound

reducing the nitrile to an amino group; and optionally deprotecting the carboxyl groups.

- 5 25. Use of a conjugate as claimed in any one of claims 2 to 18 in an assay.
  - 26. Use of a conjugate as claimed in any one of claims
    2 to 18 in the purification of histidine tagged
- recombinant proteins/peptides, His, Cys, Met, Gln, Asn, Lys and/or Tyr residue containing native proteins/peptides or phosphorylated proteins/peptides.